

## SAFETY EVALUATION REPORT

### Renewal of the DOE Certificate of Compliance for the UC-609 Package

Docket 03-7-9932

The National Nuclear Security Administration requested renewal of Certificate of Compliance USA/9932/B(U) (DOE) for the UC-609 package for the transport of tritium. The applicant did not request a "-85" upgrade to the certificate. Revision 2 of the Safety Analysis Report for Packaging (SARP), submitted with the renewal request, contained two changes of note: a reduction in the maximum quantity of tritium permitted in the package, and a design change involving the brackets used to secure the drum cover.

The maximum tritium content was reduced from 150 grams to 100 grams, with a resultant heat load reduction from 48 watts to 32 watts. This was done to lower the radioactive contents to below 1000 A<sub>2</sub>, thus exempting the package from the requirement in 10 CFR 71.73(c)(2) to pass the crush test. The staff reviewed this change and agrees that it is conservative and does not adversely affect the structural, thermal, or containment performance of the package.

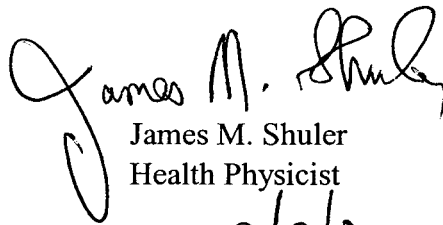
The design change involved the use of a 10-32 UNF, 0.375-inch long, stainless steel flat point or knurled cup set screw installed through a tapped hole on the underside of each of the eight J-shaped brackets used to secure the drum cover. This was done to prevent rotation of the drum cover. The design change is documented in Lawrence Livermore National Laboratory Drawing No. AAA92-102223, Rev. OD and Drawing No. AAA76-115288, Rev. OE. The procedures for loading and unloading the package in the Operating Procedures chapter of the SARP were revised to incorporate use of the set screws. Additionally, in the Quality Assurance chapter of the SARP, the Q-list documenting the quality assurance levels for design and fabrication control of the packaging was revised to incorporate the set screws. The staff reviewed this change and agrees that it does not affect the structural performance of the package.

Other minor revisions to the SARP involved editorial or typographical changes, or changes to reflect current regulatory language. The content description in the General Information chapter of the SARP was changed from "tritium in any of its forms" to "tritium in many of its common forms." This is further specified in Section 1.2.3 of the SARP to be tritium in the form of gas (compressed or uncompressed),

tritiated water (as liquid or adsorbed onto a molecular sieve or Fuller's Earth), or metal tritides (including, but not limited to, LiT, PdT, TiT<sub>2</sub>, or UT<sub>3</sub>).

The staff concludes that the above changes do not affect the ability of the package to meet the requirements of 10 CFR Part 71.

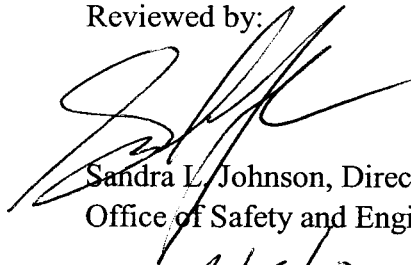
Prepared by:



James M. Shuler  
Health Physicist

Date: 9/2/03

Reviewed by:



Sandra L. Johnson, Director  
Office of Safety and Engineering

Date: 9/15/03